

Listing of Claims:

1. (Currently Amended) A catalytic antagonist of a target molecule, said antagonist comprising a targeting moiety that specifically binds to said target molecule said targeting moiety being a carbohydrate attached to an enzyme, said enzyme being a subtilisin-type serine protease-hydrolase that degrades said target molecule to reduce binding of the target molecule to its cognate ligand and to said targeting moiety thereby resulting in the release of said antagonist thereby allowing said antagonist to bind and degrade another target molecule.

2. (Original) The antagonist of claim 1, wherein said targeting moiety is joined to said enzyme through the sulfur group on a cysteine.

3. (Original) The antagonist of claim 2, wherein said cysteine is a cysteine that is substituted for a native amino acid other than cysteine in said enzyme.

4. (Original) The antagonist of claim 3, wherein said cysteine is a cysteine that is substituted for a native amino acid other than cysteine in or near a subsite comprising a substrate binding site of said enzyme.

5. (Original) The antagonist of claim 4, wherein said cysteine is a cysteine that is substituted for an amino acid forming a substrate binding site.

6. (Cancelled)

7. (Cancelled)

8. (Previously presented) The antagonist of claim 5, wherein said cysteine is substituted for an amino acid in or near a subsite selected from the group consisting of an S1 subsite, an S1' subsite, and an S2 subsite.

9. (Currently amended) The antagonist of claim 8, wherein said enzyme is a *Bacillus lentus* subtilisin (Protein Accession Number P29600).

10. (Currently amended) The antagonist of claim 8, wherein said cysteine is substituted for an amino acid corresponding to a reference residue in a *Bacillus lentus* subtilisin (SBL; Protein Accession Number P29600), where said reference residue is at or near a residue selected from the group consisting of residue 156, residue 166,

residue 217, residue 222, residue 62, residue 96, residue 104, residue 107, residue 189, and residue 209.

11. – 18. (Cancelled)

19. (Previously presented) The antagonist of claim 1, wherein said target molecule is a molecule present on the surface of a cell.

20. (Currently amended) The antagonist of claim ~~42~~19, wherein said molecule present on the surface of a cell is a molecule forming a receptor.

21. (Currently amended) The antagonist of claim ~~42~~19, wherein said molecule present on the surface of a cell is a ligand.

22. (Currently amended) The antagonist of claim ~~42~~19, wherein said molecule present on the surface of a cell is a component of a cell wall.

23. (Currently amended) The antagonist of claim ~~42~~19, wherein said molecule present on the surface of a cell is a component of a cell membrane.

24. (Cancelled)

25. (Currently amended) The antagonist of claim ~~24~~1, wherein said targeting moiety is a cognate ligand for a receptor or an enzyme.

26. (Currently amended) The antagonist of claim ~~24~~1, wherein said targeting moiety is an inhibitor for a receptor or an enzyme.

27. (Cancelled)

28. (Cancelled)

29. (Cancelled)

30. (Cancelled)

31. (Cancelled)

32. (Currently amended) The antagonist of claim 22 1, wherein said targeting moiety is a ligand that binds a lectin.

33. (Currently amended) The antagonist of claim 25 1, wherein said lectin is concanavalin A.

34. (Currently amended) The antagonist of claim 26 1, wherein said targeting moiety is a carbohydrate.

35. (Currently amended) The antagonist of claim 27 1, wherein said targeting moiety is thioethyl D-mannopyranoside.

36. (Currently amended) The antagonist of claim 26 1, wherein said targeting moiety specifically binds to a soil and said enzyme degrades a component of said soil.

37. (Withdrawn and Currently amended) A method of degrading a target molecule, said method comprising contacting said target molecule with a catalytic antagonist comprising a targeting moiety that specifically binds to said target molecule said targeting moiety being a carbohydrate attached to an enzyme, said enzyme being a subtilisin-type serine protease hydrolase that degrades said target molecule resulting in the release of said antagonist thereby allowing said antagonist to bind and degrade another target molecule.

38. (Withdrawn and Currently amended) The method of claim 30 37, wherein said targeting moiety is joined to said enzyme through the sulfur group on a cysteine.

39. (Withdrawn and Currently amended) The method of claim 34 38, wherein said cysteine is a cysteine that is substituted for a native amino acid other than cysteine in said enzyme.

40. (Withdrawn and Currently amended) The method of claim 32 39, wherein said cysteine is a cysteine that is substituted for a native amino acid other than cysteine in or near a subsite comprising a substrate binding site of said enzyme.

41.-43. (Cancelled)

44. (Withdrawn and Currently amended) The method of claim ~~3239~~, wherein said cysteine is a cysteine that is substituted for an amino acid forming a substrate binding site.

45. (Withdrawn and Currently amended) The method of claim ~~3544~~, wherein said cysteine is substituted for an amino acid in or near a subsite selected from the group consisting of an S1 subsite, an S1' subsite, and an S2 subsite.

46. (Withdrawn and Currently amended) The method of claim ~~3645~~, wherein said enzyme is a *Bacillus lentus* subtilisin.

47. (Withdrawn and Currently amended) The method of claim ~~3645~~, wherein said cysteine is substituted for an amino acid corresponding to a reference residue in a *Bacillus lentus* subtilisins (Protein Accession Number P29600), where said reference residue is at or near a residue selected from the group consisting of residue 156, residue 166, residue 217, residue 222, residue 62, residue 96, residue 104, residue 107, residue 189, and residue 209.

48.-55. (Cancelled)

56. (Withdrawn and Currently amended) The method of claim ~~3037~~, wherein said target is a molecule present on the surface of a cell.

57. (Withdrawn and Currently amended) The method of claim ~~4056~~, wherein said molecule present on the surface of a cell is a molecule forming a receptor.

58. (Withdrawn and Currently amended) The method of claim ~~4056~~, wherein said molecule present on the surface of a cell is a ligand.

59. (Withdrawn and Currently amended) The method of claim ~~4056~~, wherein said molecule present on the surface of a cell is a component of a cell wall.

60. (Withdrawn and Currently amended) The method of claim ~~4056~~, wherein said molecule present on the surface of a cell is a component of a cell membrane.

61. (Cancelled)

62. (Withdrawn and Currently amended) The method of claim ~~45~~1, wherein said targeting moiety is a cognate ligand for a receptor or an enzyme.

63. (Withdrawn and Currently amended) The method of claim ~~45~~1, wherein said targeting moiety is an inhibitor for a receptor or an enzyme.

64. (Cancelled)

65. (Cancelled)

66. (Cancelled)

67. (Cancelled)

68. (Cancelled)

69. (Withdrawn and Currently amended) The method of claim ~~50~~37, wherein said targeting moiety is a ligand that binds a lectin.

70. (Withdrawn and Currently amended) The method of claim ~~53~~37, wherein said lectin is concanavalin A.

71. (Cancelled)

72. (Withdrawn and Currently amended) The method of claim ~~54~~37, wherein said targeting moiety is thioethyl D-mannopyranoside.

73. (Withdrawn and Currently amended) The method of claim ~~50~~37, wherein said targeting moiety specifically binds to a soil and said enzyme degrades a component of said soil.

74.-145. (Cancelled)